

12.01.2000

What is claimed is:

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1. A polyurethane which has a number average molecular weight M_n of from 3,000 to 50,000 and an acid number of from 10 to 35 and is preparable by reacting
- (a1) at least one polyesterpolyol having a number average molecular weight M_n of from 1,000 to 4,000, an acid number of from 0 to 15, and an OH number of from 35 to 150, based on acyclic aliphatic and cycloaliphatic dicarboxylic acids,
- (a2) a mixture of at least one diol and one triol,
- (a3) at least one compound containing at least two isocyanate-reactive functional groups (a31) and at least one functional group (a32) capable of forming anions, and
- (a4) a mixture of at least one acyclic aliphatic and at least one cycloaliphatic diisocyanate,

with the proviso that

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(i) in the mixture (a2) the diols and triols are in a molar ratio of from 2 : 1 to 13 : 1,

5 (ii) the molar ratio of the polyesterpolyols (a1) to the mixture (a2) is from 4.5 : 1 to 1 : 1, and

10 (iii) in the mixture (a4) the acyclic aliphatic and cycloaliphatic diisocyanates are in a molar ratio of from 1 : 0.16 to 1 : 6;

15 to give an isocyanato-containing prepolymer which is then chain extended with a polyfunctional amine or amino alcohol and, if desired, is neutralized.

2. A polyurethane dispersion comprising

20 (A) at least one polyurethane as claimed in claim 1

(B) in dispersion in an aqueous medium.

25 3. The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in plastics finishing.

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4. The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in an aqueous coating material.

5 5. The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in an aqueous coating material, said material further comprising color and/or effect pigments (C).

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6. The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in an aqueous coating material, said material further comprising coatings additives (D).

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7. The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in an aqueous coating material for plastics finishing.

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8. The use of the polyurethane as claimed in claim 1 or the polyurethane dispersion as claimed in claim 2 in plastics finishing, wherein the plastics finish is obtained by the steps of

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(I) applying a two component waterbased primer and curing it to give a primer coat,

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(II) applying an aqueous coating material to the primer coat,

(III) applying a two component clearcoat material wet on wet, and

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(IV) curing the resultant basecoat/clearcoat film.

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total*

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